Section 3. Innovative Models

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This section outlines the processes, methods and outcomes from five different hospitals and systems as they have worked to improve maternal and infant outcomes. Many of these systems have concentrated on reducing early elective delivery. Their stories can serve as a template for improving other types of maternity care. Local challenges are often common across settings. For example, resistance to change from people at all levels of an organization is common. The ways that these systems and hospitals tackled their challenges can help provide ideas for others institutions and issues. In preparing these profiles we interviewed representatives from each institution and thank them for their time and insights. Where there are publications available about their efforts we have included references. In the next chapter, ***Managing Change***, you can read more about the specific methods that organizations can use to innovate and make positive change for women and their infants.

This section includes overviews of successful change initiatives from:

- Group Health Cooperative
- Ohio Perinatal Quality Collaborative (OPQC)
- Seton Health
- Swedish Health Services
- Yakima Valley Memorial Hospital (YVMH)

Table 3.1 provides an overview of methods employed by each hospital or system to implement change.

Table 3.1. *Methods Used by Innovative Models*

System	CS process measure vs. outcome measure	Hard stop or guideline change	Local leadership	Audit & Feedback	Targeted data	Multi-disciplinary teams	QI & rapid cycle change	Provider & patient education	Early physician champion	Local variability in guideline implementation
Group Health		✓	✓			✓			✓	✓
OPQC	✓		✓	✓	✓	✓	✓	✓	✓	✓
Seton	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Swedish		✓	✓	✓	✓	✓		✓	✓	
YVMH		✓	✓	✓	✓	✓		✓	✓	

Group Health Cooperative

Who

Founded in 1947 in Seattle, Washington, Group Health Cooperative is an innovative nonprofit health care system that serves over 600,000 individuals in Washington and Idaho. Group Health is the only system described in this section offering home birth services with contracted midwives.

Why

Group Health's early elective induction rates have historically been low, predating Washington's 39 Week Initiative. Leadership attributes this success to a culture of maternity care providers who utilize evidence-based medicine and best practices in order to "do the right thing" for their patients.

How

- Established safety culture of practitioners valuing evidence-based practices, and doing what is best for patients
- Utilized strong leadership to define culture of best practices, shared philosophical approach towards patient care
- Utilized a dynamic and engaged hospital laborist model to support practitioners
  - Laborists are involved with all labors on the unit
  - Board sign-out twice daily involves all maternity care providers and encourages multidisciplinary conferences on intrapartum management
- Implemented payment reform so that physicians are salaried and therefore not incentivized nor penalized for delivery mode and procedures
- Delay patient admission until active labor
  - Longer stays at home for low-risk women after their membranes have ruptured
- Encouraged use of doulas and continuous labor support during labor
- Encouraged labor after Cesarean
- Cultivated relationships with doulas and home birth midwives
- Empowered nurses to openly discuss safety issues
- Provided training for nurses and providers through AHRQs TeamSTEPPS® Project

Challenges

- Outlying providers reluctant to change practice
- Presenting targeted data on individual level

Facilitators

- Payment model does not favor surgery over vaginal delivery
- Low epidural utilization among patients
- Many providers have worked outside the U.S. and have experienced maternity care models different from current U.S. practice environments

Successes

- Consistently one of the highest VBAC rates in Washington State
- Consistently low elective induction rates

Bottom Line

Innovative staffing and payment models influence culture of care and ultimately patient safety and outcomes

Ohio Perinatal Quality Collaborative

Rose, B. (2012). The Ohio Perinatal Quality Collaborative (OPQC): Launching and sustaining a successful state PQC. *PowerPoint slides.* Retrieved from March of Dimes website: https://www.marchofdimes.com/pdf/kansas/9Rose_Compressed_Presentation_small.pdf

Who

Founded in 2007, the Ohio Perinatal Quality Collaborative (OPQC) is a statewide consortium of perinatal clinicians, hospitals, and policymakers dedicated to reducing preterm births and improving outcomes of preterm newborns through "collaborative improvement science methods." The OPQC is comprised of 21 obstetric teams voluntarily striving to improve perinatal outcomes in the state of Ohio. OPQC hospitals account for 47% births in Ohio.

Why

The Collaborative came together with concerns over neonatal intensive care unit admissions and avoidable perinatal mortality from early delivery. Nationally, Ohio ranked 35th in infant mortality and 31st in premature births. The Collaborative developed an initiative to curtail elective delivery at less than 39 weeks of gestation that launched in 20 metropolitan sites across Ohio.

How

- Partnered with local opinion leaders at each institution to encourage all staff buy-in
- Created improvement teams to participate in monthly phone calls, webinars, and three in-person learning sessions
  - Teams had of at least one nurse, data manager, and physician
- Introduced strategies to reduce unnecessary early birth including:
  - Determination of gestational age by ultrasound
  - Utilization of ACOG guidelines for medical indications for induction of labor
- Provided education for providers and patients to increase awareness of early term birth risks
- Designed media campaigns with strategic messaging
- Improved communication between obstetricians and pediatricians
- Allowed each site to adopt and modify interventions based on local needs
- Convened local quality assurance committees to determine appropriates of induction indications
- Developed a OPQC Scheduled Birth Data Form to standardize data collection
- Centralized data collection and rapid-response data feedback
- Ensured staffing patterns to reduce demand on provider time
- Improved documentation of induction and delivery indications based on ACOG criteria

Challenges

- OPQC had no regulatory authority and could only serve as a forum for collaboration
- Infrastructure is complex and requires financial support

Facilitators

- Rapid data feedback
- Education and collaboration led by respected champions

Successes

- Reduced elective delivery prior to 39 weeks gestation from 25% to less than 5% among participating hospitals
- Based on birth certificates, IOL without an indication declined from 13% to 8%
- Dating criteria documented in 99% of charts

OPQC Ohio Perinatal Quality Collaborative

Bottom Line

Strong leadership, effective utilization of data tracking, analysis, and reporting support change management processes

Seton Health

Who

Originating in Austin, Texas in 1902, the Seton systems serve 11 counties in central Texas. In 1999, the Daughters of Charity National Health System, under which Seton operated, and the St. Joseph health system merged to form Ascension Health – the nation's largest Catholic and largest non-profit health system.

Why

As part of a perinatal safety initiative to eliminate birth trauma, Ascension Health aimed to eliminate non-medically indicated induction of labor less than 39 weeks.

How

- CEO backing for quality improvement and safety change initiatives
- Recruited local physician champions
- Established interdisciplinary teams including senior administrators, physician specialists, nurses, risk managers, and quality leaders
  - Engaged vocal naysayers to create buy-in
- Integrated standardized order sets into the work flow of the labor and delivery units, sharing best practices in team meetings and conference calls
- Utilized transformation practice tools ("bundles") to promote safety by reducing birth trauma, targeting elective induction, and augmentation
- Collected and shared data monthly, focusing on shared, blinded physician-specific data
  - Demonstrated benefits without additional harms after implementing safety bundles
- Encouraged local variation in implementation at specific sites
- Emphasized use of common terminology for fetal heart rate monitoring and training with simulations to enhance communication and teamwork
- Empowered unit secretary not to schedule IOL without proper documentation
- Utilized audit and feedback with providers resulting in improved adherence to guidelines
- Implemented policy requiring a favorable Bishop score and must be >39 weeks gestation for induction of labor
- Peer reviewed cases of induction resulting in Cesarean birth and communicated directly with providers

Challenges

- Initial physician resistance to individual practice changes
- Lack of provider awareness of adverse maternal and neonatal outcomes from elective inductions <39 weeks until provided with individual and comparative data

Facilitators

- Strong quality improvement environment
- Leadership committed to making change

Successes

- Transformed initial skeptics into active proponents of change
- Maintained low primary Cesarean delivery rates for 8 years
- Reduced "convenience scheduling" of deliveries
- Decreased hospital stay duration in conjunction with reduced elective induction of labor
- No elective inductions prior to 39 weeks in the Seton system since 2005
- Although not an initial target, Seton decreased Cesarean delivery rates as a result of improved patient safety and care through the implementation of labor augmentation and elective induction bundles

Bottom Line

Implementing standardized care bundles reduces variation, increases patient safety, and measureably and sustainably improves clinical outcomes

Swedish Health Services

Reisner, D.P., Wallin, T.K., Zingheim, R.W. & Luthy, D.A. (2009). Reduction of elective inductions in a large community hospital. *American Journal of Obstetrics & Gynecology*, 200: 674.e1-7.

Who

Swedish has been providing health care to greater Seattle, Washington since 1910. As the largest nonprofit provider in the area, Swedish operates four hospitals, 17 primary care clinics, specialty and emergency facilities. Swedish facilities delivered approximately 7,000 babies per year at the time of the labor induction project in 2007 data evaluation.

Why

There was concern that labor induction was driving unplanned Cesarean births, operative vaginal deliveries, increased epidural use and longer lengths of stay. Swedish aimed to lower primary Cesarean deliveries by reducing elective induction of labor for both nulliparous (<2%) and multiparous women (<10%).

How

- Formed a multidisciplinary committee representing obstetricians, family medicine physicians, midwives, perinatologists, nurses, management, and labor and delivery staff to design the intervention and jointly craft forms
- Reviewed own data and literature to come to consensus on a list of urgent conditions requiring delivery, and to separate high priority conditions requiring scheduled delivery
- Required favorable Bishop score >=6 for elective inductions > 39 weeks
- Prohibited cervical ripening agents for elective inductions
- Ensured sufficient lead time to educate and train all parties, including office practice managers and clinicians
- Provided clinicians with individual, blinded data for comparison with peers
- Brought multiple stakeholder groups together to develop process for change
- Invested time up front addressing concerns and vetting policies and paperwork prior to implementation
- Involved nursing staff
- Held regular obstetric quality improvement meetings

Challenges

- Multiple independent private practitioner groups (versus employed physicians) made arriving at consensus on guidelines for practice change more complex
- Providers were concerned that guidelines would limit their autonomy or limit care options

Facilitators

- Leadership committed to outcomes imperative for guiding the process and motivating staff
- Guidance was provided for doctors, midwives and staff to create new work flow, thus they were invested in process changes

Successes

- Women who presented in spontaneous labor spent fewer hours in labor and delivery (9.6 hours for nulliparas, 5 for multiparas) compared to those for whom labor was induced (14.8 hours for nulliparas, 9 hours for multiparas)
- Reduced elective inductions for both nulliparas (4.3% to 0.8%) and multiparas (12.5% to 9.3%)
- Decreased unplanned primary Cesarean delivery rates for women in spontaneous labor versus those who were electively induced, among both nulliparous (26.9% to 17.9%) and multiparous women (4.0% to 1.9%)

SWEDISH

Bottom Line

It is possible to bring together disparate groups of providers to craft a change process acceptable to all stakeholders that results in improved maternal and neonatal outcomes– multidisciplinary involvement and committed leadership are imperative

Yakima Valley Memorial Hospital

Who Yakima Valley Memorial Hospital (YVMH) is a non-profit community hospital serving central Washington.

Why Wide variation in Cesarean delivery rates across providers prompted quality improvement efforts to reduce Cesarean deliveries in the early 1990s. Yakima aimed to eliminate all elective inductions of labor prior to 39 weeks gestation and has reported some of the best process and outcome metrics in Washington State.

How

- Collected and provided blinded individual data to all clinicians for peer review; reviewed aggregate data quarterly
  - Utilized individual interventions for outliers via audit and feedback
- Utilized organizational commitment at departmental level, and included OB/GYNs, family physicians, and midwives in discussions about changing guidelines
- Provided seamless patient care with provider-nurse care teams
  - Empowered and trained nurses to discuss concerns with providers and developed strong nursing support for Cesarean reduction initiatives
- Developed guidelines, standardized booking forms, and consent documentation
- Implemented a hard stop policy for elective inductions prior to 39 weeks by requiring scheduling clerk to determine appropriate (indicated) inductions, and empowered the scheduling clerk with authority to enforce new policies
- Required all scheduling forms to be in labor and delivery department the day before scheduled induction in order to have request reviewed
  - Reviewed questionable requests (medical director or head nurse)
- Provided education at departmental meetings for providers and nurses
- Ensured maternity care staff skilled in operative vaginal delivery, vaginal breech within protocol, and comfortable with prolonged active phase labor (adopted longer partogram)
- Maintained presence of labor and delivery technicians who could function as continuous labor support staff (doulas) while decentralized monitoring encouraged bedside nursing support
- Encouraged labor after Cesarean

Challenges

- Difficult to impact behavior of private physicians in solo practice
- Initial physician resistance to change

Facilitators

- Many providers lived near the hospital, minimizing expedited delivery to "get home"
- Obstetrician and Family Physician staff skilled with operative vaginal and vaginal beech delivery techniques
- Patient population was desirous of vaginal delivery, and community had a positive legal environment with very low risk of malpractice claims

Successes

- Maintains one of the lowest NTSV Cesarean delivery rates in Washington State
- Reduced elective inductions prior to 39 weeks from 11% to 4% within two years
- Over 90% of patients have births attended by their own provider

MEMORIAL
YAKIMA VALLEY MEMORIAL HOSPITAL

Bottom Line

Involving all providers affected by new policies in developing guidelines and procedural tools, as well as utilizing existing organizational culture, facilitates successful implementation